DUNDEE MEDICAL SOCIETY
SECRETARIES

65993/C

65993/C
The Library of the
Wellcome Institute for
the History of Medicine

MEDICAL SOCIETY
OF
LONDON
DEPOSIT

Accession Number

Press Mark
FRANZ, J.C.A.

Anth. White Esq^r
with the Author's Comp^ts

MEMOIR

OF THE CASE OF

A GENTLEMAN BORN BLIND,

AND SUCCESSFULLY OPERATED UPON IN THE EIGHTEENTH YEAR OF HIS AGE,

WITH

PHYSIOLOGICAL OBSERVATIONS AND EXPERIMENTS.

BY

J. C. AUGUST FRANZ, ~~of~~ LEIPZIC, M.D., M.R.C.S., &c.

From the PHILOSOPHICAL TRANSACTIONS.—PART I. FOR 1841.

LONDON:

PRINTED BY R. AND J. E. TAYLOR, RED LION COURT, FLEET STREET.

1841.

VI. *Memoir of the Case of a Gentleman born blind, and successfully operated upon in the 18th year of his age, with Physiological Observations and Experiments.* By J. C. August Franz, of (Leipzic,) *M.D.,) M.R.C.S., &c. Communicated by Sir* Benjamin C. Brodie, *Bart., F.R.S., &c.*

Received April 21,—Read May 6, 1841.

Mr. F. J., the subject of the present memoir, is the son of a physician; of scrofulous diathesis, but otherwise of robust constitution; of irritable temperament, but of contented and happy disposition; and endowed with an excellent understanding, quick power of conception, and retentive memory. In both the eyes of his father, cataract (with the addition, I suspect, of glaucoma) has manifested itself within the last four years, after a severe attack of influenza. The relatives on the paternal side are predisposed to diseases of the eye, but in the mother, and in the relatives on her side, no such predisposition can be traced. With regard to the cause of the ophthalmic affections which form the subject of this paper, the mother seemed to lay much stress on the following circumstance, which, although it may possibly have had some share in the cause of one of them, can have had no influence, in my opinion, in producing the other. She stated to me that in the eighth month of her pregnancy, which up to this period had proceeded favourably, she received from her youngest child, which she was carrying in her arms, a severe blow on the eye. This accident caused inflammation of the eye, accompanied with a curious visual illusion, viz. that all objects which she saw, but especially those situated on the ground, appeared of a deep concave form; an illusion which lasted for several months. The fright experienced from the accident also brought on convulsions, which, recurring several times, extended even to the fœtus. The recurrence of these convulsions produced in the mind of the mother a continual anxiety and fear for the health of the child, while the pain arising from the ophthalmia, together with the visual illusion just mentioned, gave her fears a direction more especially towards its eyes. Delivery took place at the proper period, when the eyes of the infant, which was otherwise healthy and well-formed, were found to present a twofold defect of organization. The father, to whose statement, on account of his professional knowledge, more weight is to be attached, informed me that both eyes were turned inwards to such an extent that a portion of the cornea was hidden by the inner canthus, and that in both pupils a yellowish-white discoloration was to be observed, which, being situated behind the iris, could not be the pupillary membrane. That the strabismus and cataract of both eyes in this case were congenital, is evident from the

testimony both of the parents and of the nurse, whom I have closely questioned on this subject. The latter, who can distinctly remember all the circumstances of the case, told me that when the child was a few months old, she held a light before its eyes, of which it took no notice. I ascertained also from her that the eye-balls had not that restless motion which is generally observed in those who are born blind, but that both eyes were always turned inwards, and that but rarely either the one or the other was moved from the internal canthus.

It was also stated to me, that towards the end of the second year the operation of keratonyxis was performed on the right eye, upon which a severe iritis ensued, terminating in atrophy of the eye-ball. Within the next four years two similar operations were performed on the left eye, which did not indeed destroy the organ, but at the same time did not remove the opacity in the pupil. The colour of the opacity became in time, however, of a clearer white; and the patient acquired a certain sensation of light, which he did not seem to have had before the operation. Both eyes for a long time retained a disposition to inflammation, and suffered repeatedly from conjunctivitis, whence the vessels of the conjunctiva were increased in number and size to such an extent, that it was necessary they should be several times excised.

At the end of June 1840, the patient, being then seventeen years of age, was brought to me by my friend Dr. Swaine, for the purpose of consulting me with regard to the congenital double strabismus, and at the same time to hear my opinion on the more severe ophthalmic affection, which up to this period had been considered incurable; the patient himself regarded his case as hopeless. The following are the particulars elicited on an attentive and careful examination:—On the right side, the eyelids and parts adjacent appeared contracted; they were less in size, and the eye itself was situated deeper in the orbit than the left. At each act of winking spasms of the eyelids were induced, and, when the left eye was turned outwards, the spasmodic twitchings extended over that half of the face. Both eyes were so much inverted, that nearly one half of the cornea was hidden by the inner canthus. The left eye he could move voluntarily outwards or in any direction with certainty, but not without exertion; it returned immediately inwards, when the influence of the will had ceased. The motion of the right eye upwards and downwards the patient had under his control, but not so the movement towards the external canthus, in effecting which he only succeeded after many attempts. The left eye-ball was of the natural size and elasticity; the right, on the other hand, was at least a third smaller, and felt soft, and like dough; it was also, in the neighbourhood of the rectus internus, flat, or rather pressed inwards. The cornea was less convex, somewhat smaller, but not in proportion to the diminished size of the globe itself; it was clear, and free from opacity, except in the centre, where the keratonyxis had left an opake spot. The fibrous structure of the iris was irregular; its colour, which was brown, rather lighter than that of the left eye. Different degrees of light produced no effect on the motion of the iris; but when the eye was moved in a horizontal di-

rection outwards, the pupil, in passing the centre of the orbit, contracted a little, and, when approaching the outer canthus, expanded again to the size it held when the eye was in its usual inverted position. On looking from the temporal side into the pupil, a large portion of the opake capsule was observed in the posterior chamber. The interior of the eye-ball presented a brownish-black appearance. The patient had not the slightest perception of light with this eye; it was perfectly amaurotic. The left eye presented in the conjunctiva, especially at the inner canthus, a number of varicose vessels, and in the sclerotica a fine vascularity around the outer half of the cornea; this latter membrane was regularly convex, clear, and perfectly pellucid The fibres of the iris were rather irregular; its brown colour not equally diffused. The pupil, which was uncommonly large, was not round, but drawn angularly downwards and inwards, neither altering in dimension with the movements of the eye, nor from the stimulus of light. On examining the eye by looking straight into it through the pupil, the anterior wall of the capsule was observed undestroyed, rendered opake in its whole extent, hypertrophied in several places, and of a colour and lustre like mother-of-pearl. On looking from the temporal side in an oblique direction into the pupil, there was visible in the anterior wall of the capsule a very small perpendicular cleft of about one line and a quarter in length. This cleft was situated so far from the centre of the pupil that it was entirely covered by the iris, and the inferior border being united to the uvea, it was kept a little open, so that the aqueous humour had free entrance into the cavity of the capsule. Except at the spot where the union of the capsule with the uvea took place (the cause of the angular form of the pupil), these two membranes were not in contact with each other. The patient only complained of an occasional sensation of pressure in the interior of the eye; otherwise the organ was free from pain. With this eye he had a perception of light, and was even capable of perceiving colours of an intense and decided tone. He believed himself moreover able to perceive about one third of a square inch of any bright object, if held at the distance of half an inch or an inch from the eye, and obliquely in such a direction as to reflect the light strongly towards the pupil. But this I am convinced was a mere delusion; for, from the state of the interior of the eye, as just described, it is evident that all rays of light falling in the direction of the optic axis in the pupil must be intercepted, and reflected by the opake capsule. By these rays, therefore, a perception of light indeed might be conveyed, but certainly no perception of objects. On the other hand, it seems probable that the lateral cleft in the capsule permitted rays of light to pass into the interior of the eye. But as this small aperture was situated entirely behind the iris, those rays only would have permeated which came in a very oblique direction from the temporal side. Admitting then these rays of light to pass through the cleft, still on account of their obliquity they must fall at a place situated about midway between the ciliar ligament and the centre of the posterior hemisphere, where, from the laws of optics, they could produce but a very imperfect image; and, owing to this imperfection of the image, it was im-

possible that the portion of the retina upon which these rays impinged could have obtained that acuteness of sensation which is essential for the mental perception of the image caused by an object. Nevertheless, we will assume that the cleft in the capsule held the same relation to the eye in this instance, as a small hole in a card placed immediately before a healthy eye; in this case the patient would not only have seen an object at the distance of half an inch or an inch, but even at a much greater distance. That he was incapable of this I have satisfied myself by repeated experiments, which have led me to the conclusion that his belief that he really saw objects resulted solely from his imagination, combined with his power of reasoning. In feeling an object and bringing it in contact with the eyelids and the cheek, while holding it close before his eye, by his refined sense of touch an idea of the object was produced, which was judged of and corrected according to the experience he had gained by constant practice. This opinion is confirmed by the observations of those who have known and watched him for years, and also by a fact which I have myself frequently observed, viz. that all well-educated blind persons, who are not absolutely amaurotic, endeavour to persuade others that they see more than they really can, in order to conceal as much as possible their deficiency in the noblest of the senses, and from a reluctance to be regarded as objects of compassion.

On terminating this inquiry into the condition of the visual organ and the actual state of vision, I may here be allowed to mention that the patient's sense of touch had attained an extraordinary degree of perfection, and that in order to examine an object minutely he conveyed it to his lips. The sensation produced by silk stuffs was most pleasing to him. He was said to possess the power of distinguishing colours by the touch, but this assertion was not confirmed by his own testimony.

After the examination above detailed, I gave my opinion that the defect of the right eye was irremediable; that the patient might obtain sight with the left eye by an operation; and that the disfigurement caused by the inversion of the eyes might also be removed by operation. Though the left eye had been considered incurable like the right, there appeared to me reasonable grounds to hope for a cure, provided I could succeed in keeping down inflammation, which is not easy to be done in an eye already several times operated upon, and especially in a young plethoric subject. The operation was then resolved upon.

On the 10th of July 1840, in the presence of Dr. Swaine, and with the kind assistance of Messrs. F. Fowke and F. Steinhaeuser, I made an incision in the cornea upwards, and introducing a pair of fine curved forceps, armed with teeth, into the posterior chamber, I seized the anterior wall of the capsule by passing one of the blades of the forceps into its small aperture, and attempted by pulling it slowly to separate it from its adhesion with the uvea and its peripheral connexion, in which I succeeded without producing a prolapsus of the vitreous body, or tearing the capsule, which I now removed. After this proceeding, a large piece of the lens of an opake colour, probably the nucleus, presented itself in the pupil, which was easily removed

from the eye by means of DAVIEL's spoon; the pupillary aperture then appeared perfectly clear and black. The patient was now turned with his back to the light, for the purpose of trying a few experiments as to his sight, but from these I was obliged to desist on account of the pain which the light produced in the organ. Both eyes were then closed with narrow strips of court-plaster, and the patient carried to bed. Venesection, local bleeding, fomentations with iced water, continued without intermission for about forty-eight hours, together with the scrupulous observance of the most severe regimen, barely succeeded in keeping down the inflammation, the effects of which in this case, where but one eye offered hope, were much to be dreaded, if it should surpass that degree which was necessary for the healing of the wound in the cornea. This process went on and terminated so favourably, that the cicatrix, situated close to the sclerotica, is now scarcely visible. The patient suffered from muscæ volitantes and from a considerable intolerance of light, pain being produced by even a mild degree of light falling on the closed lids. The muscæ volitantes were greatly mitigated, and the intolerance of light ceased, after the lapse of a few weeks, by the use of proper pharmaceutical remedies, by local bleeding, change of air, &c., and the employment of the ophthalmic fountain of Professor JUNGKEN, which I have fully described in the Medical Gazette, vol. xxvii. p. 444. To promote the development of the power of vision, the use of the fountain was continued twice daily, with Pyrmont-water and latterly with simple spring-water, for the space of three months, when it was discontinued, as it began to irritate the eye.

Before I proceed further, I must again refer to the condition of sight previous to the operation. The right eye was completely amaurotic; in the left the power of vision existed, but, on account of the mechanical defect in the visual apparatus, was very little developed for the perception of light, and not at all for the perception of objects. It appeared to me, therefore, of the greatest interest to observe attentively the progressive development of the sensibility of the retina as regarded direct, refracted, reflected, and coloured rays of light; and also the progress of the visual perception in respect of the form, dimensions, and distance of objects. I was the more induced to undertake these physiological observations from having the opportunity of conducting them with an individual, who from his age, mental endowments, and education, offered peculiar advantages for such experiments.

On opening the eye for the first time on the third day after the operation, I asked the patient what he could see; he answered that he saw an extensive field of light, in which everything appeared dull, confused, and in motion. He could not distinguish objects. The pain produced by the light forced him to close the eye immediately. Two days afterwards, the eye, which had been kept closed by means of court-plaster, was again opened. He now described what he saw as a number of opake watery spheres, which moved with the movements of the eye, but, when the eye was at rest, remained stationary, and then partially covered each other. Two days after this the eye was again opened; the same phenomena were again observed, but the spheres were less opake and somewhat transparent; their movements more steady;

they appeared to cover each other more than before. He was now for the first time capable, as he said, to look through the spheres, and to perceive a difference, but merely a difference, in the surrounding objects. When he directed his eye steadily towards an object, the visual impression produced by the object was painful and very imperfect, and no clear visual perception of it took place, because the eye, on account of the intolerance of light, could not be kept open long enough for the formation of the idea as derived from visual sensation. The appearance of spheres diminished daily; they became smaller, clearer, and more pellucid, allowed objects to be seen more distinctly, and disappeared entirely after two weeks. The muscæ volitantes, which had the form of black, immoveable, and horizontal stripes, appeared, every time the eye was opened, in a direction upwards and inwards. When the eye was closed, he observed, especially in the evening, in an outward and upward direction, an appearance of dark blue, violet, and red colours; these colours became gradually less intense, were shaded into bright orange, yellow, and green, which latter colours alone eventually remained, and in the course of five weeks disappeared entirely.

As soon as the intolerance of light had so far abated that the patient could regard an object without pain and for a sufficient time to gain an idea of it, the following experiments were made in the presence of Dr. Swaine. The first experiments were of that class in which the idea of a visible object is derived merely from pure visual sensation; the succeeding, of that kind in which the idea, in ordinary cases, depends upon the sense of sight combined with the sense of touch, and is gained by reflecting on the impressions made on the organs of both senses. It was necessary to perform these experiments on different days, as otherwise they would have distressed the eye too much.

1st Experiment. Silk ribands of different colours, fastened on a black ground, were employed to show, first the primitive, and then the complementary colours. The patient recognized the different colours, with the exception of yellow and green, which he frequently confounded, but could distinguish when both were exhibited at the same time. He could point out each colour correctly when a variety was shown him at the same time. Grey pleased him best, because this colour he said produced an agreeable and grateful sensation; the effect of red, orange, and yellow was painful, but not disagreeable; that of violet and brown not painful, but very disagreeable; the latter he called ugly. Black produced subjective colours, and white occasioned the recurrence of muscæ volitantes in a most vehement degree.

2nd Experiment. The patient sat with his back to the light, and kept his eye closed. A sheet of paper, on which two strong black lines had been drawn, the one horizontal, the other vertical, was placed before him, at the distance of about three feet. He was now allowed to open the eye, and, after attentive examination, he called the lines by their right denominations. When I asked him to point out with his finger the horizontal line, he moved his hand slowly, as if feeling, and pointed to the vertical, but after a short time, observing his error, he corrected himself. The outline in black of a square, six inches in diameter, within which a circle had been drawn, and within the latter a triangle, was, after careful examination, recognized and

correctly described by him. When he was asked to point out either of the figures, he never moved his hand directly and decidedly, but always as if feeling, and with the greatest caution; he pointed them out, however, correctly. A line consisting of angles, or in other words, a zigzag, and a spiral line, both drawn on a sheet of paper, he observed to be different, but could not describe them otherwise than by imitating their forms with his finger in the air. He said he had no idea of these figures.

3rd Experiment. The windows of the room were darkened, with the exception of one, towards which the patient, closing his eye, turned his back. At the distance of three feet and on a level with the eye, a solid *cube* and a *sphere*, each of four inches diameter, were placed before him. Allowing him to move the head in a lateral direction no further than was necessary to compensate the point of view of the right amaurotic eye, I now let him open his eye, and requested him to state decidedly what he observed. After attentively examining these bodies, he said he saw a *quadrangular* and a *circular* figure, and after some consideration he pronounced the one a *square* and the other a *disc*. His eye being then closed, the cube was taken away, and a disc of equal size substituted and placed next to the sphere. On again opening his eye, he observed no difference in these objects, but regarded them both as discs. The solid cube was now placed in a somewhat oblique position before the eye, and close beside it a figure cut out of pasteboard, representing a plane outline prospect of the cube when in this position. Both objects he took to be something like flat quadrates. A pyramid, placed before him with one of its sides towards his eye, he saw as a plain triangle. This object was now turned a little, so as to present two of its sides to view, but rather more of one side than of the other; after considering and examining it for a long time, he said that this was a very extraordinary figure; it was neither a triangle, nor a quadrangle, nor a circle; he had no idea of it, and could not describe it; "in fact," said he, "I must give it up." On the conclusion of these experiments, I asked him to describe the sensations the objects had produced, whereupon he said that immediately on opening his eye, he had discovered a difference in the two objects, the cube and the sphere, placed before him, and perceived that they were not drawings; but that he had not been able to form from them the idea of a square and a disc, until he perceived a sensation of what he saw in the points of his fingers, as if he really touched the objects. When I gave the three bodies (the sphere, cube, and pyramid) into his hand, he was much surprised that he had not recognized them as such by sight, as he was well acquainted with these solid mathematical figures by his touch. These experiments prove the correctness of the hypothesis I have advanced elsewhere on the well-known question put by Mr. Molyneux to Locke, which was answered by both these gentlemen in the negative, and has been much discussed since their time.

4th Experiment. In a vessel, containing water to about the depth of one foot, was placed a musket-ball, and on the surface of the water a piece of pasteboard, of the same form, size, and colour as the ball. The patient could perceive no difference in the position of these bodies; he believed both to be upon the surface of the water.

Pointing to the ball, I desired him to take up this object; he made an attempt to take it from the plane of the water, but when he found he could not grasp it there, he said he had deceived himself, the objects were lying in the water; upon which I informed him of their real position. I now desired him to touch the ball, which lay in the water, with a small rod; he attempted this several times, but always missed his aim; he could never touch the object at the first movement of his hand towards it, but only by feeling about with the rod. On being questioned with respect to reflected light, he said that he was always obliged to bear in mind, that the looking-glass was fastened to the wall, in order to correct his idea of the apparent situation of objects behind the glass.

When the patient first acquired the faculty of sight, all objects appeared to him so near that he was sometimes afraid of coming in contact with them, though they were in reality at a great distance from him. He saw everything much larger than he had supposed from the idea obtained by his sense of touch. Moving, and especially living objects, such as men, horses, &c., appeared to him very large. If he wished to form an estimate of the distance of objects from his own person, or of two objects from each other, without moving from his place, he examined the objects from different points of view by turning his head to the right and to the left. Of perspective in pictures he had of course no idea; he could distinguish the individual objects in a painting, but could not understand the meaning of the whole picture; it appeared to him unnatural, for instance, that the figure of a man represented in the front of the picture should be larger than a house or a mountain in the background. All objects appeared to him perfectly flat; thus, although he very well knew by his touch that the nose was prominent, and the eyes sunk deeper in the head, he saw the human face only as a plane. Though he possessed an excellent memory, this faculty was at first quite deficient as regarded visible objects; he was not able, for example, to recognize visitors, unless he heard them speak, till he had seen them very frequently. Even when he had seen an object repeatedly, he could form no idea of its visible qualities in his imagination, without having the real object before him. Heretofore, when he dreamed of any persons, of his parents, for instance, he felt them and heard their voices, but never saw them; but now, after having seen them frequently, he saw them also in his dreams. The human face pleased him more than any other object presented to his view; the eyes he thought most beautiful, especially when in motion; the nose disagreeable, on account of its form and great prominence; the movement of the lower jaw in eating he considered very ugly. Although the newly-acquired sense afforded him many pleasures, the great number of strange and extraordinary sights was often disagreeable and wearisome to him; he said that he saw too much novelty which he could not comprehend. And even though he could see both near and remote objects very well, he would nevertheless continually have recourse to the use of the sense of touch.

On the 21st of September I operated, in the presence of several medical gentlemen, in one sitting, on both eyes for the congenital strabismus. The lids were fixed by the

fingers of an assistant, the ball of the eye by a pair of forceps, and the tendon of the muscle divided by a pair of curved scissors. The rectus internus of the right eye was, like the organ itself, atrophied. The conjunctiva of the left eye was thickened at the inner angle; the muscle was uncommonly broad and thick; its tendon had a very broad attachment to the ball, and behind it was a separate bundle of muscular fibres attached to the sclerotica. The pupils of both eyes assumed immediately after the operation their proper position in the orbits. No inflammation ensued; not even in the left eye, which, from the prior operation, was still rather sensitive. The muscæ volitantes became less irksome, and the violent spasms which previously had affected not only the eyelids, but also the whole left side of the face, disappeared entirely. The right eye, which had been amaurotic, gained by this operation the power of perceiving light, so that when the left eye is closed, the patient can now distinguish light and shade, on the hand being moved before this eye. The sight of the left eye likewise was considerably improved in acuteness and clearness, both as regarded near and distant objects, but especially the latter. Objects now, however, appeared in a different situation to that which they really held; when, for instance, he directed his eye to an object situated immediately before him, he saw it more to his right, and, if he attempted to grasp it, he moved his hand in this wrong direction*. For this reason in walking across a room he always took a direction to the right, and consequently often came unawares in contact with articles of furniture, &c. This appearance of objects in false positions lasted for two months, after which time he was also capable of walking forwards in a straight direction. The right atrophied eye, which before the operation was deeply sunk in the orbit, is now more prominent, and appears therefore fuller and larger, so that the difference of the two eyes is less perceptible; he has consequently gained considerably in personal appearance. On one occasion when I was honoured with a visit from Mr. Lawrence, Dr. Watson, Dr. Kerrison, and several other medical gentlemen at my residence, I introduced him to them for examination.

In the middle of October I let him try several pair of spectacles at Mr. A. Ross's, in Regent Street. With a double convex lens of $5\frac{1}{4}$ inch focus, he saw both near and remote objects of large size most clearly and distinctly, but for small objects he could find no glasses that improved his sight. He recognized the capitals of a large print with his naked eye, and on looking through a pin-hole made in a card held close before the eye, he could distinguish even the small letters of a very minute print. He had not yet learned to read. The reason for the condition of his sight with respect to small objects, and that his vision is better on cloudy days, is no doubt to be sought in the enlarged pupil and the immobility of the iris.

In the middle of November he was able without spectacles to read the names over the windows of the shops in the streets, and to tell the time to the minute by St.

* This phenomenon I have observed in all eyes operated upon for strabismus of a great degree and long standing, when the other was closed. I have mentioned it in the Medical Gazette for June 1840, vol. xxvi. p. 540, where I have also given an explanation of the physiological cause.

Paul's clock. Walking alone in the crowded streets, especially in the City, he found very tedious. He said, seeing so many different things, and the quick movements of the multitude of people, carriages, &c., confused his sight to such a degree, that at last he could see nothing; that the sensation produced by the object last seen had not yet disappeared from the retina, when the next object made its impression thereon, by which means confusion of ideas, great anxiety, and even vertigo were occasioned, from which he could only free himself by closing his eyes for a few moments.

In the middle of December an experiment was again made with spectacles. A lens of seven inches focus was now of the same service as one of $5\frac{1}{4}$ inches had been two months before. After the operation for the strabismus he was accustomed, in speaking with any person, to turn his eye away from the face, as otherwise he said he felt disturbed by the looks of the person; he had now at length learned to look at the eyes of those with whom he conversed. The old habit of using the sense of touch to examine objects he had not yet entirely lost.

In the middle of February 1841, a third experiment was made with spectacles. A lens of ten inches focus was of the same service as one of seven inches had been on the last occasion, and one of $5\frac{1}{4}$ inches four months ago. This proves a slow, but positive amelioration of sight, and permits us to expect a still greater improvement, the more so as the patient has not passed the period of puberty. If the employment of spectacles were begun at the present period, although it is now more than seven months since the operation was performed, there would be no further amelioration of sight; the development of the visual apparatus would be arrested. I am therefore of opinion that the use of spectacles is not to be permitted, until it is, as it were, mathematically demonstrated by similar experiments with lenses, that the sight is no longer improved; by which means the faculty may in time, perhaps, reach such a degree of perfection as not to require any lens at all for remote objects.

This is the only case on record within my knowledge wherein, with a person born blind and afterwards successfully operated upon at a period of life as far advanced as in this instance, such experiments have ever been made. In the well-known case of Cheselden, published in the Philosophical Transactions for the year 1728 (page 447), the patient was only in the fourteenth year of his age, and although the case contains many highly interesting physiological observations, no series of systematic experiments was instituted. Beer has also made some interesting observations, which, however, like those made in rather a superficial manner by Janin and Daviel, tend principally to describe the impressions which the newly-acquired sense had made on the mind of the person operated upon. In Ware's case the patient was not born blind, but had become so at an early period of life. In the present paper I have merely given the simple history of the case, without making any remark on several points interesting to the pathologist and physiologist, to which I shall advert on a future occasion; the explanation and philosophy of the foregoing experiments as to the sense of sight I shall attempt in another paper, which I purpose to lay before this Society.